Appendix B

Point Mugu Sea Range Overview

(Information Provided by the U.S. Navy)

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Point Mugu Sea Range

Overview

The Naval Air Warfare Center Weapons Division (NAWCWD), part of the Naval Air Systems Command (NAVAIR), is a multi-site organization that includes a land range and associated facilities at China Lake and Point Mugu, California. NAWCWD is the Navy's premier test, training, and experimentation center for weapons systems associated with air warfare, missiles and missile subsystems, aircraft weapons integration, and airborne electronic warfare systems. The NAWCWD role at Point Mugu is to provide a safe, operationally realistic, and thoroughly instrumented testing and training environment. During every United States military crises since World War II, work at China Lake and Point Mugu has played a significant role: developing and testing weapons and systems that work the first time, every time.

The Point Mugu Sea Range (Sea Range, Figure 1), managed by NAWCWD, is the cornerstone range resource of a national naval Research, Development, Testing, and Evaluation (RDT&E) capability. The Sea Range is the nation's largest and most capable instrumented RDT&E sea range. Adjacent to Naval Base Ventura County (NBVC), the Sea Range is comprised of ocean areas and airspace, and air, surface, and subsurface range areas covering 27,278 square nautical miles of ocean area and military Special Use Airspace (SUA). The Sea Range also includes extended range areas, covering approximately 221,000 square nautical miles, which are utilized for specialized RDT&E activities. As the Navy's primary sea range for RDT&E, the Sea Range directly supports Navy and Joint systems developmental and operational programs as well as RDT&E by other agencies such as the Missile Defense Agency (MDA) and space launch activity from nearby Vandenberg Air Force Base.

The Sea Range is an integral and foundational asset of NBVC. A 2006 NBVC Economic Impact Study, presented by the Workforce Investment Board of Ventura County, reported NBVC as the largest employer in the county, with over 19,000 personnel (military and civilian) working for, or stationed on the base in all categories, and contributing directly or indirectly to another 8,200 jobs throughout the county. NBVC contributes significantly to the economic health of the area, with an economic impact exceeding $1.2 billion in 2006. According to a statement by Bill Buratto, Ventura County Economic Development Association President and Chief Executive Officer, "NBVC is the fifth-largest base in the country. The work in electronic warfare, naval weapons systems, and testing and evaluation of a host of technologies have added immeasurably to our national defense. The employees and military personnel have enhanced our quality of life through their volunteerism and involvement in our community."

RDT&E activities are fundamental to ongoing Navy “transformation”; a continuous process of addressing how the Navy organizes, trains, and equips itself to meet current and future challenges. Transformation involves changing the tools (weapons and technology, organizational structures, or approaches to training) at the disposal of naval forces, or changing the way in which naval forces employ existing tools. Navy RDT&E plays a pivotal role in the transformation process as the fulcrum for the development and testing of weapons and technology at the disposal of naval forces.

The Sea Range is a unique national asset. Geographically, it is ideally situated to support its mission, with open sea space and dedicated airspace supported by natural features (San Nicolas Island, Laguna, Peak, Santa Cruz Island, and Naval Base Ventura County) to provide the required RDT&E infrastructure. That infrastructure is likewise unique. The range instrumentation, airfield and port facilities, and command and control facilities of the Sea Range combine with the location to create an unparalleled environment for sea-based RDT&E. The Sea Range is organized, managed, and equipped to support integrated RDT&E in four media—sea, air, space, and land. The Navy, Air Force, and other federal agencies such as NASA and the MDA need assured access to these resources on the Sea Range in order to accomplish RDT&E activities that are vital to national security, and warfighter training.

The Sea Range can support a broad array of testing and training scenarios, from routine one-on-one events to complex multi-participant, multi-target training or RDT&E in dense electronic combat environments. The Sea Range also supports portions of complex, full-battlegroup, Fleet exercises involving aircraft, surface ships, and submarines against a variety of air and sea targets and threats. RDT&E events are conducted in a realistic, controlled, open-air, open-ocean maritime environment.

During missile launches and other operations, the Navy may close portions of the Sea Range for safety and security. Mariners are advised to use caution and avoid the area. Commercial and other vessels transiting the area may result in delays and diversions of critical testing and training exercises. Vessels or aircraft that do not comply with closures may result in cancelation of exercises that take many years to plan and that cannot be rescheduled. If this happens, troops may be deployed at a reduced state of readiness and without the tools or training needed to perform their duties.

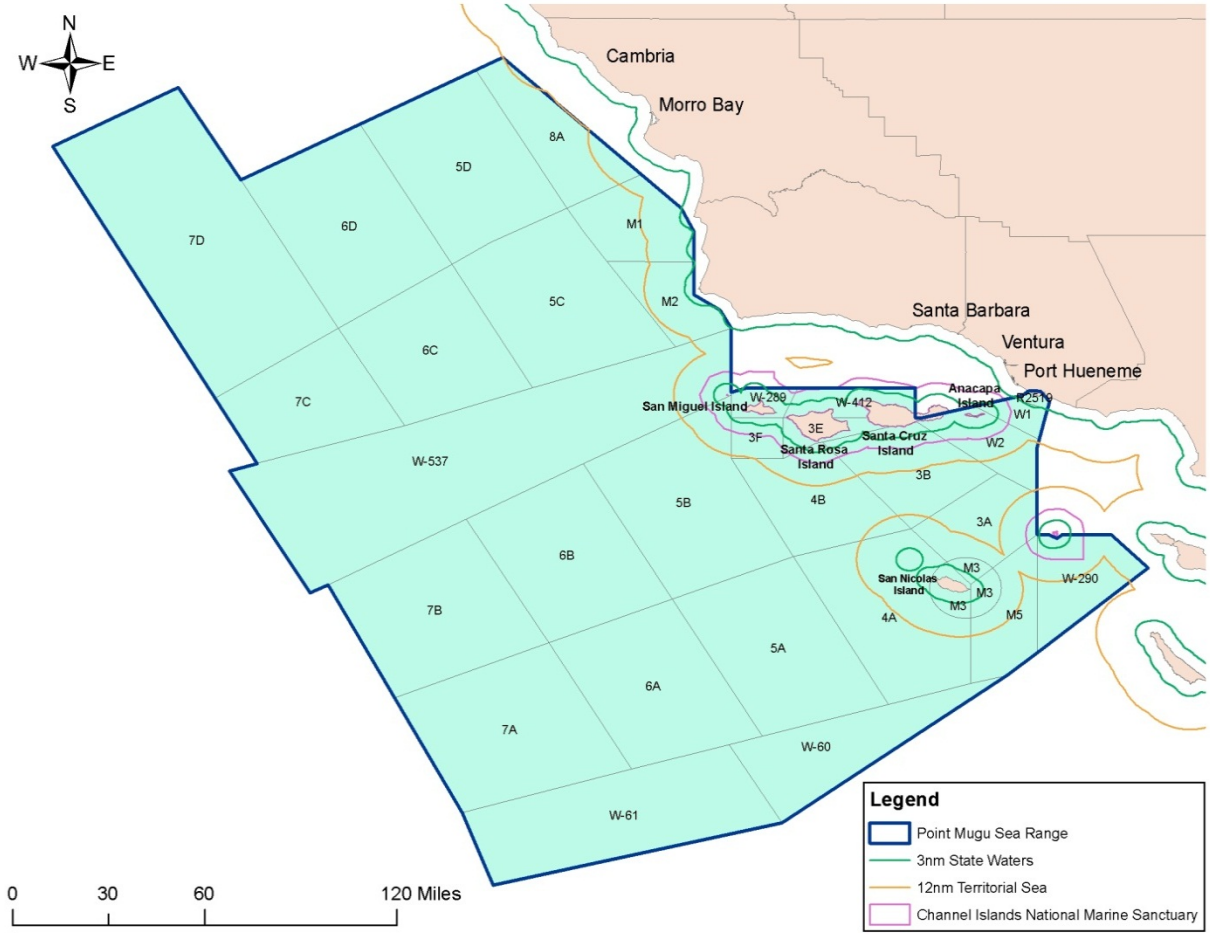

Figure 1. Pt. Mugu Sea Range

Critical Sea Range Operations

The Sea Range currently supports three general categories of training including: 1) Fleet training exercises (FLEETEX) and other training, 2) small-scale amphibious warfare training, and 3) special warfare training. The Sea Range also supports six general categories of tests to evaluate sea, land, and air weapons systems: 1) air-to-air tests, 2) air-to-surface tests, 3) surface-to-air tests, 4) surface-to-surface tests, 5) subsurface-to-surface tests, and 6) Theater Missile Defense (TMD) test and training activities. Not all of these require clearing large areas of sea and air space of non-participants, though any involving live-fire or potential for falling debris require area clearance for safety reasons.

The most time-critical of these exercises testing and training needed prior to deployment of troops or weapons. This includes Combat System Ship Qualification Trials (CSSQT) and Weapons System Upgrades both of which are highly time sensitive, generally cannot be rescheduled if delayed, and without which the overall state of

readiness is reduced. In the event that operations can be rescheduled the costs involved are significant, running into the millions of dollars for even a short delay.

Fleet Training Exercises and Combat System Ship Qualification Trials
A Fleet Training Exercises (FLEETEX) is a generic term which broadly encompasses a variety of Fleet training activities. FLEETEXs are major Naval training events designed to exercise a Battle Group's warfighting capabilities as they are intended to function in actual combat. A Battle Group refers to a group of ships that are tailored by size and type for specific warfare missions. FLEETEXs include development of an intelligence situation with the exercised units engaged against hostile forces simulated by other Naval units. These types of complex training exercises usually involve an entire Battle Group working together and are vital to maintaining operational readiness of U.S. Naval forces.

FLEETEXs on the Sea Range typically last two to three days and generally involve multiple missile firings, 50 or more aircraft sorties, and varied types of surface combatants. The Point Mugu Sea Range provides the opportunity to involve weapons systems and personnel in realistic warfare environments, including complex live-fire scenarios. FLEETEXs on the Sea Range do not involve the use of active sonar. Although each FLEETEX varies, all typically involve large numbers of ships and aircraft, usually with emphasis on air warfare and surface warfare training.

CSSQTs are the final training episode before a ship is deployed overseas. Normally this training involves multiple target presentations to test the ship's ability to defend itself. If the CSSQT is not fully completed, a ship must deploy at less than full readiness, thus jeopardizing the entire battle group.

Weapons System Upgrades
Weapon system upgrades may be requested by deployed forces. As weapon systems are used in the field, forward forces identify specific improvements necessary to address a specific shortcoming, or desired improvement, in weapons performance. These are time sensitive requests, and any delay to needed improvements places U.S. forces at increased risk.

Air-to-Air
Air-to-air testing involves the test and evaluation of an airborne weapon system (e.g., a test missile fired from a fighter aircraft against an airborne target). The test missiles are highly instrumented to record the intercept parameters and usually do not carry live warheads.

Air-to-Surface
Air-to-surface testing includes an aircraft weapon system using a missile, bomb, inert mine shape, or any other object released from an aircraft for attack of an enemy surface target. Free-fall bombs and mine shapes are usually inert, without fusing or explosives, and are used to test the accuracy of a weapon system. Targets for the air-to-surface

scenario are floating surface targets or a single target area on the western tip of San Nicolas Island.

Surface-to-Air
Surface-to-air testing involves ship's defensive weapons systems used for defense against an enemy airborne target or threat. Other surface-to-air scenarios include surface-launched weapons systems and airborne targets. The targets are similar to the air-to-air scenario and are air-launched or surface-launched.

Surface-to-Surface
Surface-to-surface testing involves a surface vessel firing a missile against a surface target, which is either another ship or a land target. This includes testing of a ship's weapon system using a cruise missile weapon to attack a surface target. The test article can be captive-carry using an inert missile, missile with telemetry and a live rocket, or the actual firing of a live missile. Air support is required from the range to provide chase aircraft and safety procedures are implemented to clear the target operational area.

Subsurface-to-Surface
Subsurface-to-surface testing involves testing a submarine's weapon system to attack a surface or land target. Missiles are fired from a submarine in the Sea Range at a surface target (hulk) on the Sea Range. The air support required from the range to clear the target operational area and provide chase aircraft is identical to the air-to-surface scenario.

Theater Missile Defense (TMD)
"TMD" is defined as the ability of the United States to defend its armed forces deployed abroad and its friends and allies against the threat of missile attack from both short- and long-range missiles in any theater of operations. The term TMD is used to describe a whole family of defensive missile programs and thus encompasses a wide variety of programs. Current testing includes Air- and Surface-carried laser systems intended to destroy a variety of missile targets.

Littoral Warfare Training and Small Scale Amphibious Warfare Training
Littoral warfare training is conducted by the Marine Corps and by Navy Special Warfare forces. Marine Corps amphibious warfare training involves operations on land and on sea. Amphibious operations include shore assault, boat raids, airfield seizure, humanitarian assistance, and light-armor reconnaissance. Amphibious landing training exercises are currently conducted about two times per year and traditionally consist of small-scale manned raids at pre-approved sites. These activities typically have occurred at San Nicolas Island when the schedule of operations and existing environmental restrictions allow.

Special Warfare Training
Special warfare training exercises are currently conducted about two times per year. Special warfare onshore operations generally involve human activities of individuals on

foot (less than ten personnel), group movement on foot (less than 30 personnel), group climbing, clandestine patrolling, laying-in (for observation), and communication by radio. No land vehicles are used except for safety purposes. Helicopters perform hovering and landing operations and are also used to conduct personnel and cargo parachute drops. Surface craft activities on beaches include the use of various small vessels.

Frequency of Operations on the Sea Range

Units and organizations of the Navy, as well as other services and agencies, and coalition partners, conduct approximately 17,000 events in a representative year on the Sea Range. Not all of these events require areas free of non-participating vessels and aircraft. One example is an aircraft flying on the range to test a new system that doesn't involve firing a weapon. However, test and training events that do involve firing weapons require areas clear of non-participating vessels or aircraft. Areas 3A, 3B, 4A, 4B and 5A on Figure 1 are the most used areas of the Sea Range. Hazardous operations are conducted in those areas approximately 200 days in a typical year. As noted above, commercial and other vessels transiting the area result in delays, diversions or cancellations of these types of critical testing and training exercises. Delays or diversions significantly increase the cost of an event and that cost is ultimately borne by the taxpayer. If an event is cancelled and cannot be rescheduled, troops may be deployed at a reduced state of readiness and without the training needed to perform their duties.